

**Notice of Allowability****Application No.**

10/824,253

**Examiner**

MARINA LEE

**Applicant(s)**

RAJAGOPAL ET AL.

**Art Unit**

2192

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed 03/18/2009.
2. ☒ The allowed claim(s) is/are 1, 3, 4, 6-12, 14-16, and 18-22, (re-number as 1-18).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 20090618.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

/M. L./  
Examiner, Art Unit 2192

/Tuan Q. Dam/  
Supervisory Patent Examiner, Art Unit 2192

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Thomas M. Bonacci (Registration No. 63,368) on June 19, 2009 at 3: 56 PM (EST).
3. Amend claims 1, 11 and 15 and cancel claims 2, 13, and 17 as set forth below are for obviating 35 U.S.C. 101 and any potential 35 U.S.C. 112 2<sup>nd</sup> issues, and to put the claims in condition for allowance.

**IN THE CLAIMS:**

Please amend the claims as indicated in complete listing of the claims – *the proposed claims amended received via email, on June 10, 2009, now being adapted by examiner* – attached to the end of this document. – See pages 5-9 (below).

***Allowable Subject Matter***

4. Claims 1, 3, 4, 6-12, 14-16, and 18-22 are allowed.
5. The following is an Examiner's statement of reasons for allowance:

The prior art of record or made of record, taken alone or in combination do not disclose and/or suggest the limitation as recited in independent claims 1, 11, and 15, at least, as:

"...a ClrElement base class for capturing common functionality of objects of the type system, the ClrElement enabled to be associated with the artifact without specific knowledge of the artifact, the artifact comprising one of a namespace, a class, an interface, an enumeration, a delegate, an attribute, a field, a property, and an event, the ClrElement base class comprising data members AttributeDeclaration, DocSummary, DocRemarks, IsEditable, IsInherited, IsCodeParseable, and IsFromReferenceAssemblies.. at least one controller object, the controller object in communication with the base class, the at least one controller object validating the requested services based on a set of rules associated with a programming language ...a first class providing a search for the artifact in the type system without directly specifying the artifact, and the first class providing a level of abstraction between a second class and a third class in the type system meta-model, the second class and the third class searchable by the first class.", which best described on Fig. 2 of Applicant's specification and further as reflect in Applicant's arguments (*Remarks* (03/18/2009), page 10, ¶2-3, and page 11, ¶1-3).

The limitation as indications above are not presented in the prior art and would not have been obvious; thus, claims 1, 3, 4, 6-12, 14-16, and 18-22 are in condition for allowance.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

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***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARINA LEE whose telephone number is (571)270-1648. The examiner can normally be reached on M-F (11:00 am to 7:30 pm) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. L./  
Examiner, Art Unit 2192

/Tuan Q. Dam/  
Supervisory Patent Examiner, Art Unit 2192

**AMENDED TO THE CLAIMS:**

The listing of claims will replace all prior versions and listing of claims in the application.

1. (Currently Amended) A computer-readable medium encoded with a data structure, the data structure for a type system implemented within a computing environment and the data structure providing requested services on an artifact in the type system, the data structure comprising:

- a) a `ClrElement` base class for capturing common functionality of objects of the type system, ~~the `ClrElement` enabled to be associated with the artifact without specific knowledge of the artifact, the artifact comprising one of a namespace, a class, an interface, an enumeration, a delegate, an attribute, a field, a property, and an event,~~ the `ClrElement` base class comprising data members `AttributeDeclaration`, `DocSummary`, `DocRemarks`, `IsEditable`, `IsInjected`, `IsCodeParseable`, and `IsFromReferenceAssemblies`;
- b) at least one controller object, the controller object in communication with the base class, the at least one controller object validating the requested services based on a set of rules associated with a programming language; and
- c) a first class providing a search for the artifact in the type system without directly specifying the artifact, and the first class providing a level of abstraction between a second class and a third class in the type system meta-model, the second class and the third class searchable by the first class.

2. (Cancelled)

3. (Original) The computer-readable medium of claim 1, wherein the programming language comprises one of Visual Basic, C++, C#, and J#.

4. (Original) The computer-readable medium of claim 1, wherein the base class determines the at least one controller object to communicate with in order to validate the requested services.

5. (Cancelled)
6. (Previously Presented) The computer-readable medium of claim 1, wherein the second class and the third class comprise nested classes.
7. (Previously Presented) The computer-readable medium of claim 1, wherein the second class and the third class include nested namespaces.
8. (Previously Presented) The computer-readable medium of claim 1, wherein the data structure further comprises:
- d) a container for storing types in the type system.
9. (Original) The computer-readable medium of claim 1, wherein the requested services comprise modifying the artifact in the type system.
10. (Original) The computer-readable medium of claim 1, wherein the requested services comprise creating a new artifact in the type system.

11. (Currently Amended) A method of modifying an artifact for use in a type system meta-model, the method comprising:

{{d}}a) receiving a request from an application programming interface to modify an artifact in the type system meta-model, the artifact comprising one of a namespace, a class, an interface, an enumeration, a delegate, an attribute, a field, a property, and an event, wherein the type system meta-model comprises a ClrElement base class for capturing common functionality of objects of the type system in association with the artifact without directly specifying the artifact, the ClrElement base class comprising data members AttributeDeclaration, DocSummary, DocRemarks, IsEditable, IsInjected, IsCodeParseable, and IsFromReferenceAssemblies, and the type system meta-model ~~includes including~~ a first class providing for a search for the artifact in the type system without directly specifying the artifact, the first class providing a level of abstraction between a second class and a third class in the type system meta-model, the second class and the third class searchable by the first class;

{{e}}b) in response to issuing at least one instruction to a language specific controller object,  
the language specific controller object validating the request to modify the artifact based on rules associated with a programming language; and

{{f}}c) in response to a validated request from the language specific controller,  
modifying the artifact.

12. (Original) The method of modifying an artifact for use in a type system meta-model of claim 11, wherein the method further comprises the step of:

d) transmitting a response to the application programming interface that the artifact has been modified.

13. (Cancelled)

14. (Original) The method of modifying an artifact for use in a type system meta-model of claim 11, wherein the programming language comprises one of Visual Basic, C++, C#, and J#.

15. (Currently Amended) A method of creating an artifact for use in a type system meta-model, the method comprising:

~~{{a}}a~~ receiving a request from an application programming interface to create an artifact in the type system meta-model, the artifact comprising one of a namespace, a class, an interface, an enumeration, a delegate, an attribute, a field, a property and an event, wherein the type system meta-model comprises a CtrElement base class for capturing common functionality of objects of the type system in association with the artifact without directly specifying the artifact, the CtrElement base class comprising data members AttributeDeclaration, DocSummary, DocRemarks, IsEditable, IsInjected, IsCodeParseable, and IsFromReferenceAssemblies, and the type system meta-model ~~includes~~ including a first class providing for a search for the artifact in the type system without directly specifying the artifact, the first class providing a level of abstraction between a second class and a third class in the type system meta-model, the second class and the third class searchable by the first class,

~~{{b}}b~~ in response to issuing at least one instruction to a language specific controller object, the language specific controller object validating the request to create the artifact based on rules associated with a programming language; and

~~{{c}}c~~ in response to a validated request from the language specific controller, creating the artifact.

16. (Original) The method of creating an artifact for use in a type system meta-model of claim 15, wherein the method further comprises the step of:

d) transmitting a response to the application programming interface that the artifact has been created.

17. (Cancelled)

18. (Original) The method of creating an artifact for use in a type system meta-model of claim 15, wherein the programming language comprises one of Visual Basic, C++, C#, and J#.



19. (Previously Presented) The method of modifying an artifact for use in a type system meta-model of claim 11, the second class and the third class comprise nested classes.
20. (Previously Presented) The method of modifying an artifact for use in a type system meta-model of claim 11, the second class and the third class include nested namespaces.
21. (Previously Presented) The method of creating an artifact for use in a type system meta-model of claim 15, the second class and the third class comprise nested classes
22. (Previously Presented) The method of creating an artifact for use in a type system meta-model of claim 15, the second class and the third class include nested namespaces.